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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/018,644	03/28/2002	Bill Gustafsson	5848.170USWO	5184

23552 7590 07/22/2003

MERCHANT & GOULD PC  
P.O. BOX 2903  
MINNEAPOLIS, MN 55402-0903

EXAMINER
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MAYO III, WILLIAM H

ART UNIT	PAPER NUMBER
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2831

DATE MAILED: 07/22/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/018,644

Applicant(s)

GUSTAFSSON ET AL.

Examiner

William H. Mayo III

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 11 June 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Specification***

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

2. The abstract of the disclosure is objected to because it contains the terms "comprising" and language such as "An insulating composition ... is disclosed, which is improper language for the abstract. Correction is required. See MPEP § 608.01(b).

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein

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were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1-2, 5, and 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gross et al (WO Pat Num 97/50093, herein referred to as Gross). Gross discloses a cable comprising an insulating composition (abstract). Specifically, with respect to claim 1, Gross discloses an insulating composition for an electric power cable (abstract) which comprises a cross linkable ethylene polymer (Page 2, 3<sup>rd</sup> paragraph), wherein the ethylene polymer is a multi-modal ethylene copolymer obtained by coordination catalyzed polymerization of ethylene and at least one other alpha-olefin in at least one stage, said multi-modal ethylene copolymer having a density of 0.890-0.940 g/cm<sup>3</sup> (Page 2, lines 3<sup>rd</sup> paragraph), a MFR of 0.1-10 g/10 min, a MWD of 3.5-8, a melting temperature of at most 125°C, and a comonomer distribution as measured by TREF, such that the fraction of copolymer eluted at a temperature higher than 90°C, which is greater than about 5% by weight (Page 2, 3<sup>rd</sup> paragraph), and said multi-modal ethylene copolymer including an ethylene copolymer fraction selected from (a) a low molecular weight ethylene copolymer having a density of 0.900-0.950 g/cm<sup>3</sup> and a MFRZ of 25-500 g/10 min, and (b) a high molecular weight ethylene copolymer having a density of 0.870-0.940 g/cm<sup>3</sup> and a MFR2 of 0.01-3 g/10 min (Page 3, 3<sup>rd</sup> paragraph). With respect to claim 2, Gross discloses that the multi-modal ethylene

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copolymer has a comonomer distribution as measured by TREF such that the fraction of copolymer eluted at a temperature higher than 90°C does not exceed 7% by weight.

With respect to claim 5, Gross discloses that the comonomer of the copolymer is at least one member selected from the group consisting of propylene, 1-butene,

4-methyl-1-pentene, 1-hexene, and 1-octene (Page 3, 2<sup>nd</sup> paragraph). With respect to

claim 7, Gross discloses that the multimodal ethylene copolymer is a bimodal ethylene copolymer comprising 30-60 % by weight of a low molecular weight ethylene copolymer fraction and 70-40 % by weight of a high molecular weight ethylene copolymer fraction

(Page 4, 2<sup>nd</sup> paragraph). With respect to claim 8, Gross discloses that the multimodal ethylene copolymer includes a low molecular weight ethylene copolymer fraction having a density of 0.900-0.950 g/cm<sup>3</sup> and a MFR, of 50-100 g/10 min (Page 8, 2<sup>nd</sup> paragraph).

With respect to claim 9, Gross discloses an electric power cable comprising a conductor surrounded by an inner semiconducting layer, an insulating layer, and an outer

semiconducting layer (Page 1, 2<sup>nd</sup> paragraph), wherein the insulating layer comprises an insulating composition for an electric power cable (abstract) which comprises a cross linkable ethylene polymer, wherein the ethylene polymer is a multi-modal ethylene

copolymer obtained by coordination catalyzed polymerization of ethylene and at least one other alpha-olefin in at least one stage, said multi-modal ethylene copolymer having

a density of 0.890-0.940 g/cm<sup>3</sup> (Page 2, lines 3<sup>rd</sup> paragraph), a MFR of 0.1-10 g/10 min, a MWD of 3.5-8, a melting temperature of at most 125°C, and a comonomer distribution

as measured by TREF, such that the fraction of copolymer eluted at a temperature

higher than 90°C, which is greater than about 5% by weight (Page 2, 3<sup>rd</sup> paragraph),

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and said multi-modal ethylene copolymer including an ethylene copolymer fraction selected from (a) a low molecular weight ethylene copolymer having a density of 0.900-0.950 g/cm<sup>3</sup> and a MFRZ of 25-500 g/10 min, and (b) a high molecular weight ethylene copolymer having a density of 0.870-0.940 g/cm<sup>3</sup> and a MFR2 of 0.01-3 g/10 min (Page 3, 3<sup>rd</sup> paragraph).

However, Gross doesn't necessarily disclose the fraction of copolymer eluted at a temperature higher than 90°C, which is less than about 5% by weight (claims 1 & 9).

With respect to claims 1 & 9, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the insulating composition of Gross to comprise the insulation composition, such that the fraction of copolymer eluted at a temperature higher than 90°C, which is greater than about 5% by weight, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

6. Claims 3-4 and 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gross (WO Pat Num 97/50093) in view of Martensson et al (Pat Num 6,369,129, herein referred to as Martensson). Gross discloses a cable comprising an insulating composition (abstract) as disclosed above with respect to claim 1.

However, Gross doesn't necessarily disclose the multimodal ethylene copolymer has a viscosity of 4000-7000 Pa.s at 135°C and a shear rate of 10 s<sup>-1</sup>, 1000-2000 Pa.s at 135°C and a shear rate of 100 s<sup>-1</sup>, and 300-350 Pa.s at 135°C and a shear rate of 1000 s<sup>-1</sup> (claim 3), nor the multimodal ethylene copolymer has a viscosity of 2500-7500

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Pa.s at 135°C and a shear rate of 10 s<sup>-1</sup>, 1000-2200 Pa.s at 135°C and a shear rate of 100 s<sup>-1</sup>, and 250-400 Pa.s at 135°C and a shear rate of 1000 s<sup>-1</sup> (claim 4), nor the MWD is 4-5 (claim 6).

Martensson teaches an insulating composition for usage with an electrical power cable, wherein the melting temperature to be completely melted in order to avoid "scorch" due to premature decomposition of the cross-linking peroxide ( Col 2, lines 44-53). Specifically, with respect to claim 3, Martensson teaches that the multimodal ethylene copolymer has a viscosity in the range of 2500-7000 Pa.s at 135°C and a shear rate of 10 s<sup>-1</sup>, 1000-1800 Pa.s at 135°C and a shear rate of 100 s<sup>-1</sup>, and 250-400 Pa.s at 135°C and a shear rate of 1000 s<sup>-1</sup> (Col 6, lines 14-21). With respect to claim 4, Martensson teaches that the multimodal ethylene copolymer has a viscosity in the range of 4000-7000 Pa.s at 135°C and a shear rate of 10 s<sup>-1</sup>, 1000-2000 Pa.s at 135°C and a shear rate of 100 s<sup>-1</sup>, and 300-350 Pa.s at 135°C and a shear rate of 1000 s<sup>-1</sup> (Col 6, lines 14-21). With respect to claim 6, Martensson teaches that the MWD is 4-5 (Col 6, lines 28-30).

With respect to claims 3-4 and 6, it would have been obvious to one having ordinary skill in the art of cables at the time the invention was made to modify the insulating material of Gross to comprise the material configuration as taught by Martensson because Martensson teaches that such a configuration provides melting temperature wherein when completely melted, avoids "scorch" due to premature decomposition of the cross-linking peroxide (Col 2, lines 44-53) and since it has been held to be within general skill of a worker in the art to select a known material on the

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basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

### ***Response to Arguments***

7. Applicant's arguments with respect to claims 1-9 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

8. Based on the new rejection, this office action is non-final.

### ***Communication***

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to William H. Mayo III whose telephone number is (703) 306-9061. The examiner can normally be reached on M-F 8:30am-6:00 pm (alternate Fridays off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean Reichard can be reached on (703) 308-3682. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-3432 for regular communications and (703) 305-3431 for After Final communications.


Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



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WHM III  
July 20, 2003